

ABSTRACT OF THE DISCLOSURE

A statistical multiplexer for coding and multiplexing multiple channels of digital television data, or multiple panels of HDTV digital television data. A bit rate need parameter is determined for each encoder in a stat mux group, and an encoding bit rate is allocated to each channel based on its need parameter. A transmission bit rate is allocated to each channel as a time-lagged version of its need parameter to minimize a rate mismatch between the output and the input of a decoder buffer. A packet processor checks for impending decoder buffer overflow or underflow events to set minimum and maximum limits on the transmission bit rate. Moreover, these limits are set based on whether a new transmission bit rate can be implemented before the decoding time stamp (DTS) of the current or next frame.